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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/423,085 11/02/99 MITSUYA

T 1422-401P

EXAMINER

IM52/0214

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ART UNIT

PAPER NUMBER

1761

DATE MAILED:

02/14/01

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

09/423,085

Applicant(s)

MITSUYA ET AL.

Examiner

Robert Madsen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

Acknowledgement is made of receipt of the Amendment filed November 30, 2000.

Claims 9-12 have been added to the application. Claims 1-12 remain pending in the application. In light of applicant's argument that the Takayuki et al. reference is not effective prior art, the rejection of claims 1-8 made under 35 U.S.C. 103 is hereby withdrawn. However, a new non-final office action follows.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Mitsuya et al. (JP409009878A).

Mitsuya et al. teach a powder composition comprising defatted or delipidated egg yolk powder that is spray dried and a functional food material, such as oil at, which is a substance that is susceptible to deterioration by light, heat or oxygen as recited in claim 5. Since spray dried powders are inherently porous and Mitsuya et al. teach adding/stirring the powder with the oil, the powder would inherently be impregnated by the oil (English Abstract).



Claims 1 , 4, 5, 8,11 are rejected under 35 U.S.C. 102(b) as being anticipated by Levin (US 3881034)

Regarding claim 1, Levin teaches a powder composition comprising defatted or delipidated egg yolk powder that is dried and a functional food material , such as oils or flavors, that fills (i.e. impregnates) the egg powder (Abstract, Column 1, lines 10-65, Column 2, lines 35-50).

Regarding claim 4, Levin teaches adding the functional food material (i.e. the oil) at the up to the same level as the fat removed (Column 2, lines 35-50) which is inherently up to 60% (i.e. it is well known in the art that egg yolk comprises about 60% fat).

Regarding claim 5, Levin teaches oils and flavors, which are known substance that is susceptible to deterioration by light, heat or oxygen as recited in claim 5.

Regarding claim 8, since Levin teaches a resulting product can have the same fat as normal eggs (less the cholesterol) and can have a good flavor, the defatted egg yolk powder with the added oil or flavor would inherently be used as a food product (Example 4).

Regarding claim 11, Levin teaches the egg yolk is fat and cholesterol free, or the lipid content is less than 10% (Column 1, lines 37-50).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable Mitsuya et al. (JP409009878A) as applied to claim 1 above, further in view of Ueda et al. (US 5487911) and Yano et al. (US 4234619).

Regarding claim 2, Mitsuya et al. teach a powder composition, but are silent in teaching a angle of repose less than 60° measured at moisture content of 5+/- 2%, relative humidity of 40% and a temperature of 25°C.

Yano et al. are relied on as evidence of spray-drying delipidated egg yolks used to mix with oil to produce a food having a moisture level of about 5% (Abstract, Column 2, lines 10-14, Example 3, Column 10, lines 45-65).

Ueda et al. are relied on as evidence that spray dried egg yolk particles (which also have a moisture content of 3 to 5%) are generally spherical and have a particle size between 5 and 100 microns (Column 2, lines 54-62 and Column 3, lines 1-5).

It would have been obvious that the particles taught by Mitsuya et al. would have a moisture about 5% and would be spherical since Yano et al. teach spray dried delipidated egg particles have moistures of about 5% and Ueda et al. teach spray dried egg particles are spherical. Therefore, it would have been further obvious that the particles taught by Mitsuya et al. would have an angle of repose of less than 60°C at room conditions (i.e. relative humidity of 40% and a temperature of 25°C), since the

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angle of repose represents the degree of flowability and spherical particles would obviously have an angle of repose less than 60°.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable Mitsuya et al. (JP409009878A) as applied to claim 1 above, further in view of Ueda et al. (US 5487911).

Regarding claim 3, Mitsuya et al. teach spray drying, but is silent in teaching an average particle size, such as 1 to 100 microns. However, Ueda et al. are relied on as evidence of the conventional egg yolk particle size that is obtained by spray drying. Ueda et al. teach either egg yolk or whole eggs will yield a spherical particle size of 5 to 200 microns (Column 3, line 65 to Column 4, line 4). Therefore, it would have been obvious that the method of Mitsuya et al. would also yield a particle size of 5 to 200 microns since one would be substituting one egg form for another using the same process.

Claim 6, 7, 9, 10<sup>and 12</sup> are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsuya et al. (JP409009878A) in view of Yano et al. (US 4234619) and Broderick et al (US 5139787).

Regarding claim 6, Mitsuya et al. teach mixing delipidated egg yolk with water, spray drying the mixture (spray drying results in a porous particle), and mixing the particles with a functional food material (i.e. oil). However, Mitsuya et al. are silent in teaching the oil/egg mixture is also dried under reduced pressure while mixing.

Yano et al. are relied on as further evidence of spray-drying delipidated egg yolks and later mixing the resulting particles with an oil to produce a food (Abstract, Column 2, lines 10-14, Example 3, Column 10, lines 45-65)

Broderick et al. are relied on as evidence of the conventionality of impregnating a porous particle with a functional food material by means of drying under reduced pressure. (Abstract Column 5, lines 39-55).

Therefore, it would have been obvious to modify the method of Mitsuya et al. and use reduced pressure to dry the particles since it was well known in the art that porous particles mixed with functional, liquid materials are dried under reduced pressure to impregnate the particles. One would be substituting one known porous particle for another in the same process for the same purpose: impregnate a porous particle with a functional food material.

Regarding claim 7, Mitsuya et al. teach stirring the delipidated egg yolk particles with the functional food material (Abstract).

Regarding claim 9, Mitsuya et al. teach solvent extraction (Abstract).

Regarding claim 10, Mitsuya et al. teach ethanol at 100-200 parts per 10 parts egg yolk (i.e. 1000 –2000 parts per 100 parts yolk) in order to delipidated the yolk.

Regarding claim 12, Mitsuya et al. teach a spray drying a delipidated egg yolk, which is well known in the art to result in a porous particle. Mitsuya et al. are silent in teaching a pore size of the particles. However, it is well known in the art that the process parameters of spray drying include air pressure and air temperature.

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Therefore, the size of the pores formed in any particle would be obvious result effective variable of the particular air pressure and process temperature selected for the process.

### ***Conclusion***


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Melnick (US 3563765), Melnick et al. (US 594183), Merchant et al. (US 5037661), Zeidler et al. (US 5514401), and Jackeschky (WO 9314649) all teach methods to obtain defatted egg yolk solids.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Madsen whose telephone number is (703)305-0068. The examiner can normally be reached on 6:30AM-4:00PM, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (703)308-3959. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3599 for regular communications and (703)305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

R. Madsen  
February 11, 2001

  
**MILTON CANO**  
**PRIMARY EXAMINER**  
*Case 1761*